

Appl. No. 10/676,321  
Amendment dated September 11, 2006  
Reply to Office Action mailed May 10, 2006

Attorney Docket No. BP2964

## REMARKS/ARGUMENTS

### Double Patenting Rejection

Claims 1-10, 20-29 were rejected on non-statutory double patenting grounds over U.S. Patent 7,027,780 because "the claims in the invention are broader than the claims in the application". The applicant strongly disagrees. The claims of the issued patent are directed to a "a digital processor that ... produce[s] ... a pre-compensated digital information signal that is pre-compensated for group delay variation and magnitude response characteristics of at least one downstream filter." This pre-compensation for group delay variation and magnitude response of downstream components is a limitation not found in the present claims and thus is narrower and certainly is not the same meaning as "IF" or intermediate frequency of the present application.

### Claim Rejections – 35 U.S.C. § 102

Claim 1 was rejected under 35 U.S.C. § 102(e) as being anticipated by Mollenkopf et al. (6,845,083).

Claim 1 requires:

*a digital processor digitally modulates digital data to produce a digitized baseband signal, that converts the digitized baseband signal to a digitized Intermediate Frequency (IF) signal, and that outputs the digitized IF signal;*

The applicant notes that the digital processor "outputs the digitized IF signal".

Mollenkopf et al., however, teach that the CPU 102 produces a signal to a transmitter 108. It is

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within transmitter 108 that the signal received from CPU 102 is upconverted to IF by digital intermediate frequency up-converter 132 after being processed by an over-deviation phase multiplier 130. As such, it is very clear that Mollenkopf did not disclose the digital processor producing an IF signal as is required by the present claims.

Claim 1 was rejected under 35 U.S.C. § 102(e) as being anticipated by Nguyen et al. (20036,845,083).

The applicant notes that there is no published application to Nguyen et al. having a publication number of 20036,845,083. Assuming that the Examiner intended to refer to US Application 2003/006,0174, the applicant notes that Nguyen et al. also does not teach the claimed of the present application. Nguyen et al. show a transmit processor 52 that produces an analog baseband signal (DAC 68 is at output of processor 52) that is upconverted to IF by modulator 82 with an IF signal received from oscillator 84. Nguyen et al. do not show a transmit processor that produces a digital IF signal (that is subsequently converted to be an analog signal) as is required by claim 1.

Claim 1 was rejected under 35 U.S.C. § 102(a) as being anticipated by Baker et al. (6,606,483).

The rejection over Baker et al. fails for similar reasons given above. Baker et al. show that a signal 207 is upconverted to RF by quadrature modulator 216. Baker et al. go on to state that signal 207, which is external to the processor, may be converted to IF prior to being

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converted to RF (see col. 8, ll. 50-66, especially ll. 56-59). As such, Baker et al. do not contemplate or disclose a transmit processor that produces an IF digital signal for conversion to an analog form prior to upconversion, amplification and filtration in a radio front end for transmitting.

Claims 20-29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mollenkopf et al. (6,845,083) in view of Dartois (6,289,056).

Regarding claim 20, the grounds for rejection included the prior rejection over Mollenkopf et al. in combination with Dartois for the teaching that any sampling rate that is a multiple of 26 MHz is disclosed. While the Examiner concedes that Dartois does not teach a sample rate of 338 MHz, he states that it would have been obvious to provide such a sample rate from the Dartois teaching since he did teach sample rates of 104 MHz and 208 MHz.

The applicant disagrees with this rejection. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the references must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the cited references, and not based on applicant's disclosure. MPEP 2143, p. 2100-121 (August 2001) [Emphasis added]. Dartois does not specifically teach or suggest a sample rate of 338 MHz as is required. Having digital data

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with a 338 MHz sample rate is not suggested by Dartois et al. and cannot be said to be suggested merely because 338 MHz is a multiple of 26 MHz.

Moreover, this rejection also fails because of the aforementioned reasons relating to the digital processor and the digital IF signal produced therefrom as discussed above. In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142; *In re Fritch*, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). Only when a *prima facie* case of obviousness is established does the burden shift to the applicant to produce evidence of nonobviousness. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of a patent. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985).

Because the combination of Mollenkopf et al. and Dartois do not teach a digital processor that outputs IF or a digital processor that produces an outgoing digital data stream sampled at 338 MHz, a *prima facie* case of unpatentability under 35 U.S.C. 103(a) has not been made.

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Claims 21-22 were also rejected on the basis of Dartois (presumably in combination with Mollenkopf et al.) because Dartois teaches an IF of 26 MHz wherein the harmonic tones are outside the specified frequency band of interest. Claim 22, however, specifies that the sample rate and the DAC are selected to that neither generates harmonics in at least specified band of interest. While it is generally known that harmonics occur outside of a specified signal range for a given frequency signal within the specified signal range, claim 22 specifically suggests that the sample rate of the digital data and the DAC are selected in relation to the effects of harmonics on a specified frequency range. The applicant cannot find where Dartois specifically teaches this. Further, claim 22 depends upon claim 20 which is believed to be allowable for the foregoing reasons discussed above and thus the grounds for rejection are believed to be moot.

Similarly, claims 23-29 were rejected additionally over Mollenkopf et al. teach having a divider in the translational loop and that the translational loop is implemented to satisfy requirements for 800, 900, 1800 or 1900 MHz transmissions. Assuming, arguendo, this is correct, Mollenkopf et al. still do not teach what these claims require. To understand the claims, consider the structure of claim 5 of the present application. The structure shows two power amplifiers that produce 1800 MHz and 900 MHz signals according to the selected transmission mode. Alternatively, by adjusting an output frequency of VCO 116, the power amplifiers are operable to produce 1900 MHz and 850 MHz, respectively according to the selected transmission mode.

The output of VCO 116 is thus provided to the first power amplifier and then in a divided form to the second power amplifier. Regardless of the selected transmission mode and

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corresponding power amplifier used to power amplify and transmit the outgoing signal, the translational loop divides by two. As such, whether such a divider is included is not based on the transmission mode thus distinguishing the description made by the Examiner in relation to Mollenkopf et al. Further, claims 23-29 are directed to compensating for a phase modulation index, not a frequency division so as to provide a desired phase modulation index according to whether the first or second amplifier is selected for the selected transmission mode. While amendment is not required for this distinction, claims 25-26 and 27-28 are amended to clearly specify that the output may selectably be amplified and transmitted. As may be seen in Figure 5, for example, one of two amplifiers may be selected for an outgoing transmission.

Claims 2-4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mollenkopf et al. in view of Abdelgany et al. (2003/0193923). Claims 5-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mollenkopf et al. in view of Abdelgany et al. (2003/0193923) and further in view of Dartois (6,289,056). While all of these claims are considered allowable and these grounds of rejection are rendered moot based upon the arguments before in relation to claim 1, the applicant also believes that claim 10 is further overcome based upon the prior arguments made in relation to the 338 MHz sample rate in contention that said sample rate is not rendered obvious by teachings of 104 MHz and 208 MHz in Dartois. Applicant respectfully traverses this rejection in that a *prima facie* case of obviousness has not been established.

If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at

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the telephone number indicated below or at [jharrison@texaspatents.com](mailto:jharrison@texaspatents.com).

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Garlick Harrison & Markison Deposit Account No. 50-2126 (ref. BP2964).

Respectfully submitted,

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